



IFWO

## RAW SEQUENCE LISTING

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:11

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw

3 <110> APPLICANT: Meng, Xiang-Jin  
 4 Fenaux, Martijn  
 5 Halbur, Patrick G.  
 7 <120> TITLE OF INVENTION: Chimeric Infectious DNA Clones, Chimeric Porcine  
 Circoviruses and

8 Uses Thereof

10 &lt;130&gt; FILE REFERENCE: AM100878 CIP

12 &lt;140&gt; CURRENT APPLICATION NUMBER: 10/808,964A

13 &lt;141&gt; CURRENT FILING DATE: 2004-03-25

15 &lt;160&gt; NUMBER OF SEQ ID NOS: 32

17 &lt;170&gt; SOFTWARE: PatentIn version 3.2

19 &lt;210&gt; SEQ ID NO: 1

20 &lt;211&gt; LENGTH: 1768

21 &lt;212&gt; TYPE: DNA

22 &lt;213&gt; ORGANISM: Porcine circovirus

24 &lt;400&gt; SEQUENCE: 1

**ENTERED**

```

25 aaatttctga caaacgttac aggggtgctgc tctgcaacgg tcaccagact cccgctctcc      60
27 aacaaggtac tcacagcagt agacaggtca ctccgttgct cttgagatcg aggagctcca      120
29 cattcaataa gtaagttgcc ttctttactg caatattctt tattctgctg atcagttcct      180
31 ttggctttct cgatatggca gcgggcaccc aaataccact tcactttatt aaaagtttgc      240
33 ttcttcacaa aattagcgaa cccctggagg tgaggtgttc gtccttcttc attaccctcc      300
35 tcgccaacaa taaaataatc aaatagggag attgggagct cccgtatttt cttgcgctcg      360
37 tcttcggaag gattattcag cgtgaacacc caccctttat gtggttgggg tccgcttctt      420
39 ccattcttct tgttgggcgt gttgctgctg aggtgctgcc gagggtgctgc cgctgccgaa      480
41 gtgcgctggg taactactaca gcgcacttct ttcgttttca gctatgacgt atccaaggag      540
43 gcggtaccgc agaagaagac accgcccccg cagccatctt ggccagatcc tccgcgcgcg      600
45 cccctggctc gtccaccccc gccaccgcta ccgttgagga aggaataatg gcatcttcaa      660
47 caccgcctc tcccgcacct tcggatatac tgtcaaggct accacagtca gaacgcctc      720
49 ctgggcggtg gacatgatga gatthaatat tgacgacttt gttcccccgg gaggggggac      780
51 caacaaaatc tctataccct ttgaatacta cagaataaga aaggtttaagg ttgaattctg      840
53 gccctgctcc cccatcacc aggggtgatag gggagtgggc tccactgctg ttattctaga      900
55 tgataacttt gtaacaaagg ccacagccct aacctatgac ccatatgtaa actactcctc      960
57 ccgccataca atccccaac ccttctctca ccactcccg tacttcacac ccaaacctgt      1020
59 tcttgactcc accattgatt acttccaacc aaataacaaa aggaatcagc tttggatgag      1080
61 gctacaaacc tctagaaatg tggaccacgt aggcctcggc actgcgttcg aaaacagtat      1140
63 atacgaccag gactacaata tccgtgtaac catgtatgta caattcagag aatttaatct      1200
65 taaagacccc ccacttaaac cctaaatgaa taataaaaaa cattacgaag tgataaaaaa      1260
67 gactcagtaa tttatttcat atggaaattc agggcatggg ggggaaaggg tgacgaactg      1320
69 gcccccttcc tccgtggatt gttctgtagc attcttccaa aataccaaga aagtaatcct      1380
71 ccgatagaga gttctacag ctgggacagc agttgaggag taccattcca acggggtctg      1440
73 attgctggta atcagaatac tgcggggcaa aaaaggtaaa gttccacctt tagtctctac      1500
75 agtcaatgga tatcgatcac acagtctcag tagatcatcc cacggcagcc agccataaaa      1560
77 gtcatacata acaaccactt cttcaccatg gtaaccatcc caccacttgt ttctaggtgg      1620
79 tttccagtat gtggtttccg ggtctgcaaa attagcagcc catttgcttt taccacaccc      1680

```

## RAW SEQUENCE LISTING

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:11

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw

```

81 aggtggcccc acaatgacgt gtacattggt cttccaatca cgcttctgca ttttcccgct 1740
83 cactttcaaa agttcagcca gcccgcgg 1768
86 <210> SEQ ID NO: 2
87 <211> LENGTH: 1773
88 <212> TYPE: DNA
89 <213> ORGANISM: Porcine circovirus
91 <400> SEQUENCE: 2
92 ggtacctcgc tggattgttc tccagcagtc ttccaaaatt gcaaagtagt aatcctccga 60
94 tagagagctt ctacagctgg gacagcagtt gaggagtacc attcctgggg ggcctgattg 120
96 ctggtaatca aaatactgcg ggccaaaaaa ggaacagtac cccctttagt ctctacagtc 180
98 aatggatacc ggtcacacag tctcagtaga tcatcccaag gtaaccagcc ataaaaatca 240
100 tccaaaacaa caacttcttc tccatgatat ccateccacc acttatttct actaggcttc 300
102 cagtaggtgt ccttaggttc agcaaaatta cgggcccact ggctcttccc acaaccgggc 360
104 gggcccacta tgacgtgtac agctgtcttc caatcacgct gctgcatctt cccgctcact 420
106 ttcaaaagtt cagccagccc gcggaaatth ctcacatacg ttacaggaaa ctgctcggct 480
108 acagtcacca aagaccccggt ctccaaaagg gtactcacag cagtagacag gtcgctgcgc 540
110 ttcccctggt tccgcggagc tccacactcg ataagtatgt ggccttcttt actgcagtat 600
112 tctttattct gctggtcggt tcccttctct ttctcgatgt ggcagcgggc accaaaatca 660
114 cacttcacct tgttaaaagt ctgcttctta gcaaaattcg caaaccctg gaggtgagga 720
116 gttctaccct ctccaaaacc ttctctgcca caaacaaaat aatcaaaaag ggagattgga 780
118 agctcccgtt ttttgttttt ctccctctcg gaaggattat taagggtgaa caccacctc 840
120 ttatgggggt gcgggcccgt tttcttgctt ggcattttca ctgacgctgc cgaggtgctg 900
122 ccgctgccga agtgcgctgg taatactaca gcagcgcact tctttcactt ttataggatg 960
124 acgtatccaa ggaggcggtt ccgcagaaga agacaccgcc cccgcagcca tcttggccag 1020
126 atcctccgcc gccgccctg gctcgteccac cccgcgccacc gctaccgttg gagaaggaaa 1080
128 aatggcatct tcaacacccg cctctcccg cacttcggat atactgtcaa ggctaccaca 1140
130 gtcagaacgc cctcctgggc ggtggacatg atgagattta atattgacga ctttgttccc 1200
132 ccgggagggg ggaccaacaa aatctctata ccctttgaat actacagaat aagaaaggtt 1260
134 aaggttgaat tctggccctg ctcccccatc acccaggggtg ataggggagt gggctccact 1320
136 gctgttattc tagatgataa ctttgaataa aaggccacag ccctaaccta tgaccatat 1380
138 gtaaatctact cttcccgcga tacaatcccc caacccttct cctaccactc ccgttacttc 1440
140 acacccaaac ctgttcttga ctccaccatt gattacttcc aaccaataaa caaaaggaaat 1500
142 cagcttttga tgaggctaca aacctctaga aatgtggacc acgtaggcct cggcactgcg 1560
144 ttcgaaaaca gtatatacga ccaggactac aatatccgtg taaccatgta tgtacaattc 1620
146 agagaattta atcttaaaga cccccactt aaaccctaaa tgaataaaaa taaaaaccat 1680
148 tacgatgtga taacaaaaaa gactcagtaa tttattttat atgggaaaag ggcacagggg 1740
150 gggctccactg cttcaaatcg gccttcgggt acc 1773
153 <210> SEQ ID NO: 3
154 <211> LENGTH: 702
155 <212> TYPE: DNA
156 <213> ORGANISM: Porcine circovirus
158 <400> SEQUENCE: 3
159 atgacgtatc caaggaggcg ttaccgcaga agaagacacc gccccgcag ccattcttggc 60
161 cagatctccc gccgccgccc ctggetcgtc cccccgcgc accgctaccg ttggagaagg 120
163 aaaaatggca tcttcaaacac ccgcctctcc cgcaccttcg gatatactgt caaggctacc 180
165 acagtcagaa cgccctcctg ggcgggtggac atgatagat ttaatattga cgactttggt 240
167 cccccgggag gggggaccaa caaatctct ataccctttg aatactacag aataagaaaag 300
169 gttaagggtg aattctggcc ctgctcccc atcaccagg gtgatagggt agtgggctcc 360
171 actgctgtta ttctagatga taactttgta acaaaggcca cagccctaac ctatgacca 420

```

## RAW SEQUENCE LISTING

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:11

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw

```

173 tatgtaaact actcctcccg ccatacaatc ccccaaccct tctcctacca ctcccgttac      480
175 ttcacaccca aacctgttct tgactccacc attgattact tccaaccaa taacaaaagg      540
177 aatcagcttt ggatgagget acaaacctct agaaatgtgg accacgtagg cctcggcact      600
179 gcgttcgaaa acagtatata cgaccaggac tacaatatcc gtgtaaccat gtatgtacaa      660
181 ttcagagaat ttaatcttaa agacccccca cttaaaccct aa                          702
184 <210> SEQ ID NO: 4
185 <211> LENGTH: 233
186 <212> TYPE: PRT
187 <213> ORGANISM: Porcine circovirus
189 <400> SEQUENCE: 4
191 Met Thr Tyr Pro Arg Arg Arg Tyr Arg Arg Arg Arg His Arg Pro Arg
192 1 5 10 15
195 Ser His Leu Gly Gln Ile Leu Arg Arg Arg Pro Trp Leu Val His Pro
196 20 25 30
199 Arg His Arg Tyr Arg Trp Arg Arg Lys Asn Gly Ile Phe Asn Thr Arg
200 35 40 45
203 Leu Ser Arg Thr Phe Gly Tyr Thr Val Lys Ala Thr Thr Val Arg Thr
204 50 55 60
207 Pro Ser Trp Ala Val Asp Met Met Arg Phe Asn Ile Asp Asp Phe Val
208 65 70 75 80
211 Pro Pro Gly Gly Gly Thr Asn Lys Ile Ser Ile Pro Phe Glu Tyr Tyr
212 85 90 95
215 Arg Ile Arg Lys Val Lys Val Glu Phe Trp Pro Cys Ser Pro Ile Thr
216 100 105 110
219 Gln Gly Asp Arg Gly Val Gly Ser Thr Ala Val Ile Leu Asp Asp Asn
220 115 120 125
223 Phe Val Thr Lys Ala Thr Ala Leu Thr Tyr Asp Pro Tyr Val Asn Tyr
224 130 135 140
227 Ser Ser Arg His Thr Ile Pro Gln Pro Phe Ser Tyr His Ser Arg Tyr
228 145 150 155 160
231 Phe Thr Pro Lys Pro Val Leu Asp Ser Thr Ile Asp Tyr Phe Gln Pro
232 165 170 175
235 Asn Asn Lys Arg Asn Gln Leu Trp Met Arg Leu Gln Thr Ser Arg Asn
236 180 185 190
239 Val Asp His Val Gly Leu Gly Thr Ala Phe Glu Asn Ser Ile Tyr Asp
240 195 200 205
243 Gln Asp Tyr Asn Ile Arg Val Thr Met Tyr Val Gln Phe Arg Glu Phe
244 210 215 220
247 Asn Leu Lys Asp Pro Pro Leu Lys Pro
248 225 230
251 <210> SEQ ID NO: 5
252 <211> LENGTH: 30
253 <212> TYPE: DNA
254 <213> ORGANISM: Porcine circovirus
256 <400> SEQUENCE: 5
257 gaaccgcggg ctggctgaac ttttgaaagt      30
260 <210> SEQ ID NO: 6
261 <211> LENGTH: 30
262 <212> TYPE: DNA

```

## RAW SEQUENCE LISTING

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:11

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw

```

263 <213> ORGANISM: Porcine circovirus
265 <400> SEQUENCE: 6
266 gcaccgcgga aatttctgac aaacgttaca 30
269 <210> SEQ ID NO: 7
270 <211> LENGTH: 21
271 <212> TYPE: DNA
272 <213> ORGANISM: Porcine circovirus
274 <400> SEQUENCE: 7
275 ttggtaccc gaaggccgat t 21
278 <210> SEQ ID NO: 8
279 <211> LENGTH: 24
280 <212> TYPE: DNA
281 <213> ORGANISM: Porcine circovirus
283 <400> SEQUENCE: 8
284 attggtacct ccgtggattg ttct 24
287 <210> SEQ ID NO: 9
288 <211> LENGTH: 39
289 <212> TYPE: DNA
290 <213> ORGANISM: Porcine circovirus
292 <400> SEQUENCE: 9
293 gaagttaacc ctaaataaat aaaaataaaa accattacg 39
296 <210> SEQ ID NO: 10
297 <211> LENGTH: 37
298 <212> TYPE: DNA
299 <213> ORGANISM: Porcine circovirus
301 <400> SEQUENCE: 10
302 ggtggcgccct ccttggtatc gtcacacctat aaaagtg 37
305 <210> SEQ ID NO: 11
306 <211> LENGTH: 30
307 <212> TYPE: DNA
308 <213> ORGANISM: Porcine circovirus
310 <400> SEQUENCE: 11
311 aggttataag tggggggtct ttaagattaa 30
314 <210> SEQ ID NO: 12
315 <211> LENGTH: 27
316 <212> TYPE: DNA
317 <213> ORGANISM: Porcine circovirus
319 <400> SEQUENCE: 12
320 ggaaacgtta ccgcagaaga agacacc 27
323 <210> SEQ ID NO: 13
324 <211> LENGTH: 35
325 <212> TYPE: DNA
326 <213> ORGANISM: Porcine circovirus
328 <400> SEQUENCE: 13
329 actatagatc ttatttcatt tagagggtct ttcag 35
332 <210> SEQ ID NO: 14
333 <211> LENGTH: 29
334 <212> TYPE: DNA
335 <213> ORGANISM: Porcine circovirus

```

## RAW SEQUENCE LISTING

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:11

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw

```

337 <400> SEQUENCE: 14
338 tacgggcatg catgacgtgg ccaaggagg                29
341 <210> SEQ ID NO: 15
342 <211> LENGTH: 36
343 <212> TYPE: DNA
344 <213> ORGANISM: Porcine circovirus
346 <400> SEQUENCE: 15
347 agacgagatc tatgaataat aaaaaccatt acgaag        36
350 <210> SEQ ID NO: 16
351 <211> LENGTH: 31
352 <212> TYPE: DNA
353 <213> ORGANISM: Porcine circovirus
355 <400> SEQUENCE: 16
356 cgtaagcatg cagctgaaaa cgaaagaagt g            31
359 <210> SEQ ID NO: 17
360 <211> LENGTH: 24
361 <212> TYPE: DNA
362 <213> ORGANISM: Porcine circovirus
364 <400> SEQUENCE: 17
365 gctgaacttt tgaaagtgag cggg                    24
368 <210> SEQ ID NO: 18
369 <211> LENGTH: 26
370 <212> TYPE: DNA
371 <213> ORGANISM: Porcine circovirus
373 <400> SEQUENCE: 18
374 tcacacagtc tcagtagatc atccca                  26
377 <210> SEQ ID NO: 19
378 <211> LENGTH: 21
379 <212> TYPE: DNA
380 <213> ORGANISM: Porcine circovirus
382 <400> SEQUENCE: 19
383 ccaactttgt aacccccctcc a                      21
386 <210> SEQ ID NO: 20
387 <211> LENGTH: 18
388 <212> TYPE: DNA
389 <213> ORGANISM: Porcine circovirus
391 <400> SEQUENCE: 20
392 gtggacccac cctgtgcc                            18
395 <210> SEQ ID NO: 21
396 <211> LENGTH: 20
397 <212> TYPE: DNA
398 <213> ORGANISM: Porcine circovirus
400 <400> SEQUENCE: 21
401 ccagctgtgg ctccatttaa                          20
404 <210> SEQ ID NO: 22
405 <211> LENGTH: 29
406 <212> TYPE: DNA
407 <213> ORGANISM: Porcine circovirus
409 <400> SEQUENCE: 22

```

**VERIFICATION SUMMARY**

DATE: 08/20/2004

PATENT APPLICATION: US/10/808,964A

TIME: 10:35:12

Input Set : A:\AM100878 CIP.txt

Output Set: N:\CRF4\08202004\J808964A.raw